SERIES 7000

AW 7075 (Al Zn5,5MgCu)

It is the best known of the 7000 series alloys for its mechanical characteristics. Its resistance can be compared with numerous steels. Due to the high resistance/density ratio, it is often used in extreme applications such as aeronautics, aerospace, nuclear, automotive, etc.

CHEMICAL COMPOSITION (WEIGHT %) (EN 573 - 3)

ELEMENTS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al
Minimum	-	-	1.2	-	2.1	0.18	5.1	-	-
Maximum	0.4	0.5	2	0.3	2.9	0.28	6.1	0.2	Rest

MECHANICAL PROPERTIES

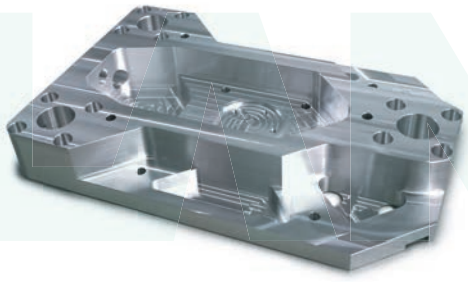
PLATES (EN 485 - 2)

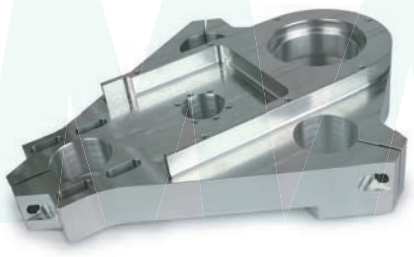
THICKNESS (mm)	TEMPER	Rm* (MPa)	Rp0.2* (MPa)	A50* (%)	A* (%)	HB - BRINELL HARDNESS
1.5 - 3	T651	540	470	7	-	161
3 - 6		545	475	8	-	163
6 - 12.5		540	460	8	-	160
12.5 - 25		540	470	-	6	161
25 - 50		530	460	-	5	158
50 - 60		535	440	-	4	155
60 - 80		495	420	-	4	147
80 - 90		490	390	-	4	144

*Minimum values.

THICKNESS (mm)	TEMPER	Rm* (MPa)	Rp0.2* (MPa)	A50* (%)	A* (%)	HB - BRINELL HARDNESS
90 - 100	T651	460	360	-	3	135
100 - 120		410	300	-	2	119
120 - 150		360	260	-	2	104
150 - 200		360	240	-	2	104
200 - 300		360	220	-	1	104
120 - 150	T6	360	260	-	2	104
150 - 200		360	240	-	2	104
200 - 300		360	220	-	1	104

*Minimum values.





MAIN CHARACTERISTICS

- Very good machining
- Good polishing
- Good dimensional stability
- Good weldability with electron beam
- Limited fusion weldability

APPLICATIONS

- Railway rails
- Mechanical engineering
- Automation
- Jigs and accessories
- Tools

POLISHING

MACHINABILITY

WELDABILITY

ELECTRICAL/THERMAL CONDUCTIVITY

≈150 HB
BRINELL HARDNESS

2.80
DENSITY

SERIES 7000

MECHANICAL PROPERTIES

ROUND RODS (EN 755 - 2)

DIAMETERS (mm)	TEMPER	Rm* (MPa)	Rp0.2* (MPa)	A* (%)	A50* (%)	HB - BRINELL HARDNESS
≤ 25	T6 T6511	540	480	7	5	150
25 - 100		560	500	7	-	150
100 - 150		550	440	5	-	150
150 - 200		440	400	5	-	150

*Minimum values.

PHYSICAL PROPERTIES

DENSITY	2.80 g/cm^3
MODULUS OF ELASTICITY	71 000 MPa
LINEAR EXPANSION COEFFICIENT	23.4 10^{-6} /K
THERMAL CONDUCTIVITY	130 W/mK
ELECTRICAL CONDUCTIVITY	19 m/Ohm mm^2

DELIVERY PROGRAM

ROUND RODS

DIAMETERS (mm)	WEIGHT (kg/m)	STOCK T6511	STOCK T6
Standard lenght 3000mm			
25	1.374	●	●
30	1.979	◒	●
35	2.693	◒	◒
40	3.518	◒	●
45	4.552	◒	●
50	5.497	●	●
55	6.652	◒	◒
60	7.916	●	●
65	9.291	◒	◒
70	10.775	◒	●
75	12.370	◒	◒
78	13.400	◒	●
80	14.074	●	●
85	15.888	◒	●
90	17.813	◒	●
95	19.837	◒	◒
100	21.991	●	●
110	26.609	●	●
120	31.668	●	●
125	34.344	◒	●
130	37.165	●	●
140	43.102	●	●
150	49.480	●	◒
160	56.297	◒	●
170	63.554	◒	◒
180	71.251	◒	●
190	77.900	◒	●
200	86.300	●	●
210	95.200	◒	◒
220	104.500	◒	●
230	114.200	◒	●
250	135.000	●	●
260	146.000	◒	●
280	169.300	◒	●
300	194.300	◒	●
330	235.000	◒	◒
350	264.500	◒	●
400	345.400	◒	●

Average weights of production.
Other dimensions on request.

SHEETS

THICKNESSES (mm)	DIMENSIONS (mm)	SHEET WEIGHT(kg)	STOCK T651	STOCK T6
3	1020 x 2020	17.37	●	-
4	1520 x 3020	51.60	●	-
5	1520 x 3020	64.50	●	-

Average weights of production.
Other dimensions on request.

PLATES

THICKNESSES (mm)	DIMENSIONS (mm)	PLATE WEIGHT(kg)	STOCK T651	STOCK T6
6	1520 x 3020	77.39	●	-
8	1520 x 3020	103.19	●	-
10	1520 x 3020	128.99	●	-
12	1520 x 3020	154.79	●	-
15	1520 x 3020	193.49	●	-
20	1520 x 3020	257.98	●	-
25	1520 x 3020	322.48	●	-
30	1520 x 3020	386.97	●	-
35	1520 x 3020	451.47	●	-
40	1520 x 3020	515.96	●	-
45	1520 x 3020	578.40	●	-
50	1520 x 3020	644.95	●	-
55	1520 x 3020	707.00	●	-
60	1520 x 3020	773.94	●	-
70	1520 x 3020	902.93	●	-
80	1520 x 3020	1031.92	●	-
90	1520 x 3020	1160.92	●	-
100	1520 x 3020	1289.90	●	-
110	1520 x 3020	1418.89	●	-
120	1520 x 3020	1547.88	●	-
125	1520 x 3020	1606.70	●	-
130	1520 x 3020	1676.87	●	-
140	1520 x 3020	1805.86	●	-
150	1520 x 3020	1934.85	●	-
160	1520 x 3020	2056.50	●	●
170	1520 x 3020	2185.00	●	●
180	1520 x 3020	2313.60	●	●
200	1440 x 3020	2435.00	-	●

Average weights of production.
Other dimensions on request.

● Standard: generally available from stock
◒ Semi-standard: generally not available from stock
○ Non-standard: generally not available from stock, manufactured to order and subject to special conditions.